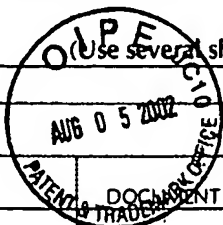


<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b> 270/234	<b>SERIAL NO.</b> 10/037,477
	<b>APPLICANT:</b> Yoshihiro Takai et al.	
	<b>FILING DATE:</b> January 2, 2002	<b>GROUP:</b> 2882



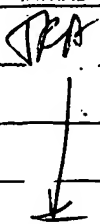
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE	
SPR	AA 5,727,554	03/17/98	Kalend et al.	128	653.1	09/19/96	
	AB 5,823,192	10/20/98	Kalend et al.	128	845	07/31/96	
	AC 6,020,159	02/01/00	Black et al.	435	69.1	08/04/97	
	AD 6,138,302	10/31/00	Sashin et al.	5	600	11/10/98	
	AE 6,307,914 B1	10/23/01	Kunieda et al.	378	65	12/01/99	

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION	
						YES	NO


OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)		
SPR	AF	B.J. Lopresti, et al., "Implementation and Performance of an Optical Motion Tracking System for High Resolution Brain PET Imaging", <i>IEEE Transactions on Nuclear Science</i> , Vol. 46, No. 6, December 1999; pp. 2059-2067
	AG	P.J Keall, et al., "Motion adaptive x-ray therapy: a feasibility study", <i>Physics in Medicine Biology</i> , 46 (2001) 1-10
	AH	Paul Keall, "4D IMRT: Imaging, Planning and Delivery", January 31, 2001, pp. 1-53

<b>EXAMINER:</b> Not Yet Assigned	<b>DATE CONSIDERED:</b> 1/12/06
EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant	

<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b> (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b> 270/234	<b>SERIAL NO.</b> 10/037,477
	<b>APPLICANT:</b> Yoshihiro Takai et al.	
	<b>FILING DATE:</b> January 2, 2002	<b>GROUP:</b> 2882

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	AA	5,207,223	5/4/93	Adler	128	653.1	10/19/90
	AB	5,427,097	6/27/95	Depp	128	653.1	12/10/92
	AC	6,144,875	11/7/00	Schweikard et al.	600	427	3/16/99
	AD	6,222,901	4/24/01	Meulenbrugge et al.	378	19	3/12/99

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)		
	AE	Yonesaka A. et al., "Application of real-time tracking radiation therapy (RTRT) system for the treatment of spinal and paraspinal diseases"; <i>J. Radiat Oncol. Biol. Phys.</i> , 2001; 51 (3S1): Abstract No. 44., PMID: 14; 2 pp.
	AF	Jolesz, Ferenc A., M.D., "IMAGE-GUIDED PROCEDURES AND THE OPERATING ROOM OF THE FUTURE"; <i>Brigham and Women's Hospital, Harvard Medical School</i> ; pp. 1-23.
	AG	Shimizu, S., et al., "Fluoroscopic Real-Time Tumor-Tracking Radiation Treatment (RTRT) Can Reduce Internal Margin (IM) and Set-up Margin (SM) of Planning Target Volume (PTV) for Lung Tumors; 2 pp.
	AH	Kitamura, K., et al., "Migration of the Internal Fiducial Gold Marker Implanted into Prostate and Liver treated with Real-Time Tumor-Tracking Radiation Treatment (RTRT)", <i>Hokkaido University School of Medicine</i> , Sapporo, Japan; 2 pp.
	AI	Kitamura, Kei et al.; "3D INTRA-FRACTIONAL MOVEMENT OF PROSTATE MEASURED DURING REAL-TIME TUMOR TRACKING RADIATION THERAPY [RTRT] IN SUPINE AND PRONE TREATMENT POSITIONS"; <i>Department of Radiology and Urology, Hokkaido University School of Medicine</i> ; 15 pp.
	AJ	Fujita K., "Three-dimensional conformal set-up of prostate cancer by adjustment of actual clinical target volume (CTV) to virtual CTV using three fiducial markers and fluoroscopic real-time tracking system.", <i>J. Radiat. Oncol. Biol. Phys.</i> , 2001; 51 (3S1): Abstract No. 2303, PMID: 16; 2 pp
	AK	Benedict, Stanley H., "Looking Into Patient Positioning and Organ Motion", <i>VCU Health System</i> , pp. 1-10.

<b>EXAMINER:</b> Not Yet Assigned	<b>DATE CONSIDERED:</b> 9/12/06
EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

+

Substitute for form 1449A-PTO <b>SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)		Complete if Known	
		Application Number	10/037,477
		Filing Date	January 2, 2002
		First Named Inventor	Yoshihiro Takai
		Art Unit	2882
		Examiner Name	Not yet assigned
Attorney Docket No.	270/234; 18721-7053		
Sheet	1	of	2

## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher city and/or country where published	
DRA	1	Balter, J. M. et al., "Daily targeting of intrahepatic tumors for radiotherapy," <i>Int J Radiat Oncol Biol Phys</i> , 2002, Jan 1:52(1), pp. 266-71	
	2	Cho, P.S. et al. "Cone-beam CT for radiotherapy applications," <i>Phys Med Biol</i> 1995;40: pp. 1863-1883.	
	3	Drake, D.G. et al. "Characterization of a fluoroscopic imaging system for kilovoltage and megavoltage radiography," <i>Med Phys</i> 2000;27: pp. 898-905.	
	4	Fahrig, R. et al., "Three-dimensional computed tomographic reconstruction using a C-arm mounted XRll: Imagebased correction of gantry motion non-idealities," <i>Med Phys</i> 2000;27:30-38.	
	5	Feldkamp, L.A. et al. "Practical cone-beam algorithm," <i>J Opt Soc Am A</i> 1984;1: pp. 612-619.	
	6	Groh, B.A. et al. "A performance comparison of flat-panel imager-based MV and kV conebeam CT," <i>Med Phys</i> 2002;29: pp. 967-975.	
	7	Jaffray, D.A. et al. "A radiographic and tomographic imaging system integrated into a medical linear accelerator for localization of bone and soft-tissue targets," <i>Int J Radiat Oncol Biol Phys</i> 1999;45: pp. 773-789.	
	8	Jaffray, D.A. et al. "Cone-beam computed tomography with a flat-panel imager: Initial performance characterization," <i>Med Phys</i> 2000;27: pp. 1311-23.	
	9	Keall, P. J. et al., "[Abstract] Motion Adaptive X-ray Therapy: A feasibility study," 3 <sup>rd</sup> Annual IMRT Symposium ABSTRACTS, Chicago 2000 World Congress, July 24, 2000, Sheraton Chicago, Chicago, Illinois.	
	10	Keall, P. J. et al., "[Presentation] Motion Adaptive X-Ray Therapy; A Feasibility Study," Medical College of Virginia Hospitals, Virginia Commonwealth University.	
	11	Midgley, S., et al. "A feasibility study for megavoltage cone beam CT using commercial EPID," <i>Phys Med Biol</i> 1998;43: pp. 155-169.	

RECEIVED

JAN 21 2004

Examiner's Signature	<i>[Signature]</i>	Date Considered	1/12/06	TECHNOLOGY CENTER R3700
----------------------	--------------------	-----------------	---------	-------------------------

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

+

Substitute for form 1449A-PTO <b>SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANTS</b> (use as many sheets as necessary)				Complete if Known	
				Application Number	10/037,477
				Filing Date	January 2, 2002
				First Named Inventor	Yoshihiro Takai
				Art Unit	2882
				Examiner Name	Not yet assigned
				Attorney Docket No.	270/234; 18721-7053
Sheet	2	of	2		

## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

12	Mosleh-Shirazi, M.A. et al. "A cone-beam megavoltage CT scanner for treatment verification in conformal radiotherapy," <i>Radiother Oncol</i> 1998; 48: pp. 319–328.	
13	Nakagawa, K. et al. "Megavoltage CT-assisted stereotactic radiosurgery for thoracic tumors: Original research in the treatment of thoracic neoplasms," <i>Int J Radiat Oncol Biol Phys</i> 2000; pp. 48:449–457.	
14	Pisani, L. et al. "Setup error in radiotherapy: On-line correction using electronic kilovoltage and megavoltage radiographs," <i>Int J Radiat Oncol Biol Phys</i> 2000; 47: pp. 825–839.	
15	Ruchala, K.J. et al. "Megavoltage CT on a tomotherapy system," <i>Phys Med Biol</i> 1999; 44: pp. 2597–2621.	
16	Siewerdsen, J.H. et al. "Cone-beam computed tomography with a flat-panel imager: Magnitude and effects of x-ray scatter," <i>Med Phys</i> 2001;28: pp. 220–231.	
17	Siewerdsen, J.H., et al. "Optimization of x-ray imaging geometry (with specific application to flat-panel cone-beam computed tomography)," <i>Med Phys</i> 2000;27: pp. 1903–1914.	
18	Swindell, W. et al., "Computed tomography with a linear accelerator with radiotherapy application," <i>Med Phys</i> , 10, pp. 416-420.	
19	Uematsu, M. et al. "A dual computed tomography linear accelerator unit for stereotactic radiation therapy: A new approach without cranially fixated stereotactic frames," <i>Int J Radiat Oncol Biol Phys</i> 1996;35: pp. 587–592.	
20	Uematsu, M. et al. "Intrafractional tumor position stability during computed tomography (CT)-guided frameless stereotactic radiation therapy for lung or liver cancers with a fusion of CT and linear accelerator (FOCAL) unit," <i>Int J Radiat Oncol Biol Phys</i> 2000;48: pp.443–448.	

RECEIVED

JAN 21 2004

TECHNOLOGY CENTER R3700

Examiner's Signature	<i>[Signature]</i>	Date Considered	1/12/05
----------------------	--------------------	-----------------	---------

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231.

DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A-PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 1

**Complete if Known**

Application Number	10/037,477
Filing Date	January 2, 2002
First Named Inventor	Yoshihiro Takai, et al.
Art Unit	2882
Examiner Name	Not yet assigned
Attorney Docket No.	270/234; 18721-7053

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YY	Name of Patentee or Application of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YY	Name of Patentee or Application of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher city and/or country where published
RA	1	Uematsu, Minoru, et al. "Daily Positioning Accuracy of Frameless Stereotactic Radiation Therapy with a Fusion of computed Tomography and Linear Accelerator (Focal) Unit: Evaluation of z-axis with a z-marker"; <i>Radiotherapy and Oncology</i> , Vol. 50, Issue 3, 1 March 1999, Pages 337-339.

Examiner's  
Signature

Date

Considered

1/12/06

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

+ Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, D.C. 20231.

## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

### Title of Invention

METHOD AND APPARATUS FOR IRRADIATING A TARGET

Application Number : 10/037477  
Confirmation Number: 5209  
First Named Applicant: Yoshihiro TAKAI  
Attorney Docket Number: 18721-7053  
Art Unit: 2882  
Examiner: Craig E. Church  
Search string: ( 20030007601 ).pn



### US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
12A	1	20030007601	2003-01-09	Jaffray et al.			

### Signature

Examiner Name	Date
	1/12/06